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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,284

07/14/2008

Martin Schlegl

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EXAMINER

TIETJEN, MARINA ANNETTE

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

04/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,284	Applicant(s) SCHLEGL ET AL.	
	Examiner MARINA TIETJEN	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/15/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 05/15/2006 is acknowledged by the Examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwaiger (DE 3625590).

Schwaiger discloses a lightweight valve (fig. 2) comprising:

a valve stem (see labeled fig. 2 below);

a hollow valve cone (see labeled fig. 2 below) with a hollow space (see labeled fig. 2 below);

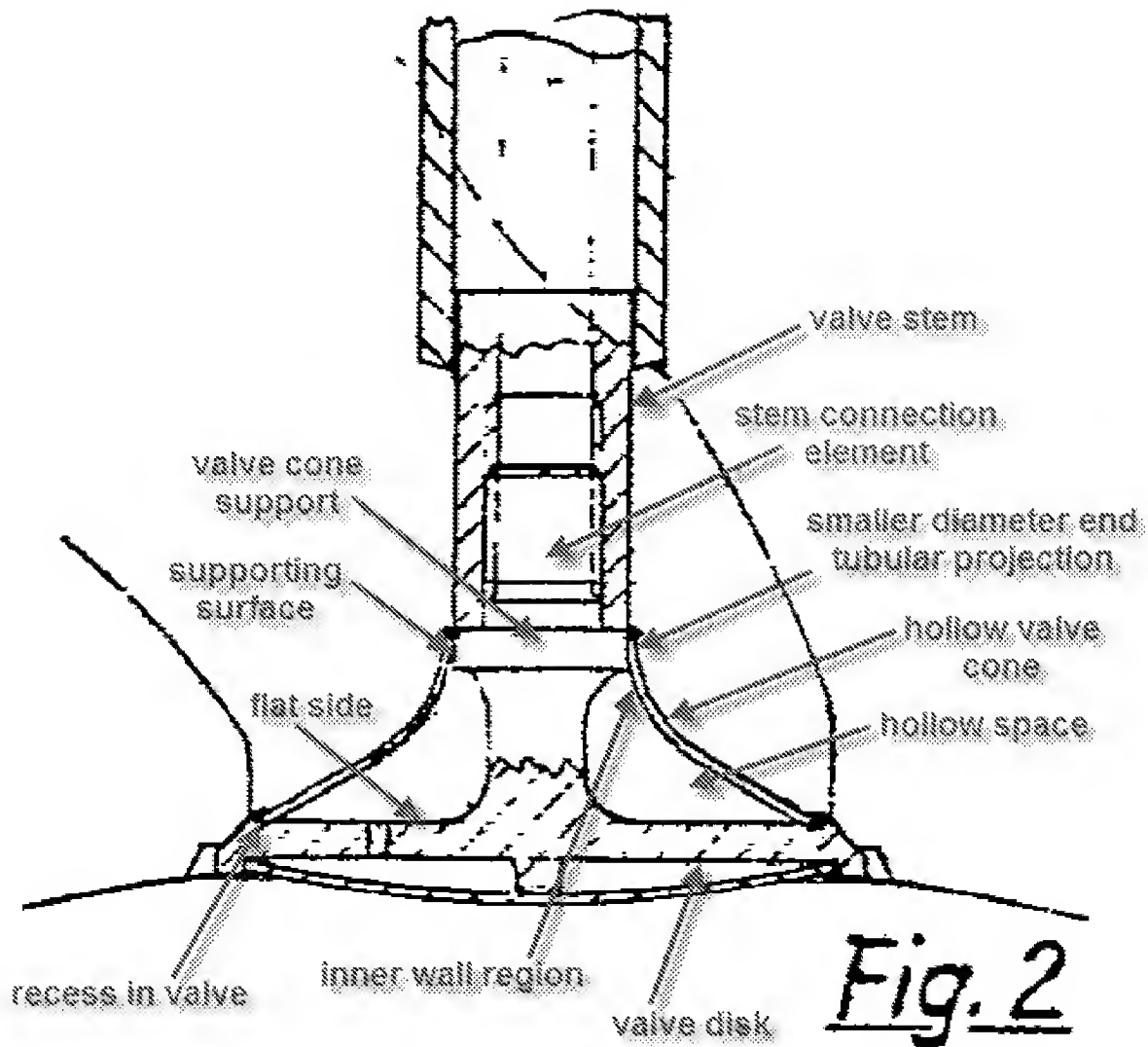
a valve disk (see labeled fig. 2 below) closing the hollow space (fig. 2) on one side and having a flat side (see labeled fig. 2 below) facing the valve cone (fig. 2);

the valve stem (fig. 2) being connected to a stem connection element (labeled fig. 2) formed on or fastened to the valve disk (fig. 2);

a valve cone support (see labeled fig. 2 below) located at a distance from the valve disk (fig. 2) and provided in the hollow space (fig. 2), the valve cone support (fig.

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2) being located on the stem connection element (fig. 2) and projecting above the flat side (fig. 2);



wherein the valve cone support (fig. 2) includes at least one supporting surface (see labeled fig. 2 above) bearingly contacting an inner wall region (see labeled fig. 2 above) of the valve cone (fig. 2);

wherein a contour of the supporting surface (fig. 2) complements the inner wall region (fig. 2);

wherein the valve cone support (fig. 2) is formed by a thickening on the stem connection element (fig. 2);

wherein the valve cone is of disk-spring-shaped design (cone creates concave shape, fig. 2);

wherein the valve cone (fig. 2) has at a smaller diameter end (see labeled fig. 2 above) a tubular projection (see labeled fig. 2 above) for guiding through the stem connection element (fig. 2);

wherein the valve cone support (fig. 2) forms a centering and supporting seat for the valve cone (fig. 2);

wherein the valve disk (fig. 2) has a recess (vaguely shown in fig. 2, but better shown in fig. 6) serving as a centering and supporting seat for the valve cone (fig. 2);
and

wherein the valve (fig. 2) is an internal combustion engine valve.

4. Claims 1-17 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Meintschel et al. (DE 10204122).

Meintschel et al. teach a lightweight valve (21, fig. 3) comprising:

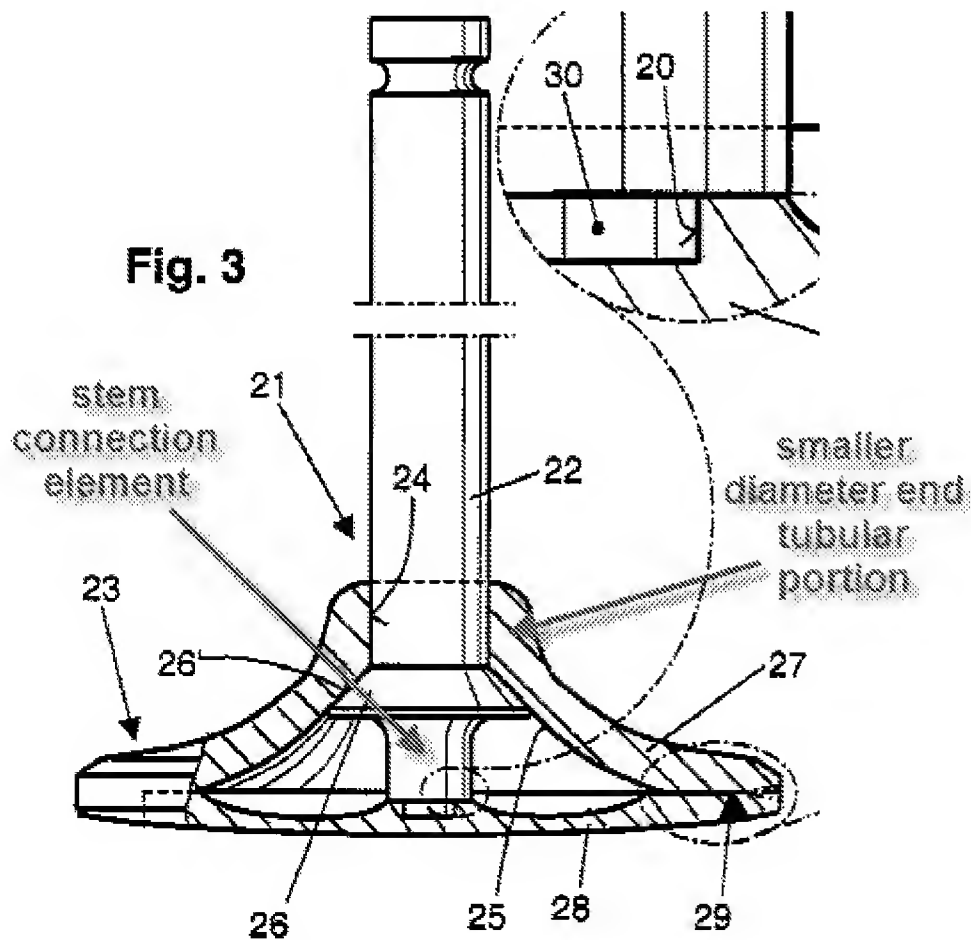
a valve stem (22);

a hollow valve cone (27) with a hollow space (inside cone, fig. 3); and

a valve disk (28) closing the hollow space on one side and having a flat side (flat side contacts valve cone) facing the valve cone (27);

the valve stem (22) being connected to a stem connection element (see labeled fig. 3 below) fastened to the valve disk (28);

a valve cone support (26) located at a distance from the valve disk (28) and provided in the hollow space, the valve cone support (26) being located on the stem connection element (labeled fig. 3) and projecting above the flat side;



wherein the valve cone support (26) includes at least one supporting surface (surface contacting cone surface 25) bearingly contacting an inner wall region (25) of the valve cone (27);

wherein a contour of the supporting surface (contacts cone surface 25) complements the inner wall region (25);

wherein the valve cone support (26) is formed by a thickening on the stem connection element (labeled fig. 3);

wherein the valve cone (27) is of disk-spring-shaped design (cone has concave shaped surface like a disk-spring);

wherein the valve cone (27) has at a smaller diameter end (see labeled fig. 3 above) a tubular projection (see labeled fig. 3 above) for guiding through the valve stem (22);

wherein the valve cone support (26) forms a centering and supporting seat for the valve cone (27); and

wherein the valve (21) is an internal combustion engine valve.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meintschel et al. (DE 10204122) in view of Heimann, Jr. et al. (U.S. Pat. No. 5,823,158).

Meintschel et al. disclose the invention as essentially claimed, except for the valve disk having a recess serving as a centering or supporting seat for the valve cone.

Heimann, Jr. et al. teach a recess (208) on a valve disk (160) for the purpose of providing an abutting surface (206) which serves as a seating surface for the valve cone, as well as provides additional strength for the joining weld (col. 6, lines 30-41).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Meintschel et al.'s invention such that the valve disk included a recess for receiving the valve cone, as taught by Heimann, Jr. et al., for the purpose of providing an abutting surface which serves as a seating surface for the valve cone, as well as provides additional strength for the joining weld.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARINA TIETJEN whose telephone number is (571) 270-5422. The examiner can normally be reached on Mon-Thurs, 9:00AM-5:00PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GREG HUSON can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T./
Examiner, Art Unit 3753

/John K. Fristoe Jr./
Primary Examiner, Art Unit 3753